
Atharva Search Engine

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Abstract: Generally, we have observed that most of the College website doesn't include information regarding the projects undertaken by the students as well as papers published by them. We found that its one of the most important requirement for students to take new projects. Even on Atharva College web portal there are data available about the study program, but it is really hard and time wasting for a student to find the data that is needed. For easier information viewing, there is a need for a dynamic web application. ASE is implemented in some programming languages and using open source technologies. They support installation on Windows and Linux environments. XAMPP is required for the development. A login system will be implemented to separate the users (Guests, Students, Faculty). Atharva Search Engine will provide papers presented in Atharva of minimum past 2 years including projects done in the college. Papers will be divided according to domain and it will be easily available for new students. For increasing the interactivity of parents with the website there would be an AI chatbot system and a mail notification system for college program notices.

Keywords: Dynamic Web application, Search Engine, Recommendation system, Binary-search Algorithm, Query Expansion.

I. Introduction

On Atharva's web portal there are data available about the study program, but it is really hard and time wasting for a student to find the data that is needed. Also there is need of a platform where students can get information related to research papers published in our college. So for easier information viewing as well as IEEE paper searching, there is a need for a dynamic web application. The content provided on a College/university's website is insufficient, 3rd party applications are frequently used to convey information to students, which results in making the task tedious and complex.

II. Background

There exists a system which finds most relevant information regarding colleges by using a Custom Search engine. In this system, documents uploaded by faculties and students are analyzed and indexing of these uploaded documents is done in the database. After that, documents and information are retrieved based on search keyword.

III. Proposal Method

This system proposes an efficient method for students to access reference papers and college information which makes use of searching method. This method is implemented using Mysql and Php. The user is required to login to the application for acquiring access to the papers.

A. Search application :

Here the user can search papers by querying the domain, year or paper name itself. User will get all the relevant results based on query.

B. User registration :

Since the application is purely designed for educational purpose so we need to have separate authentication system for both the faculty and students.

C. Admin panel :

The admin of the system will have complete control over system and will be able to send notifications to the user.

IV. Block Diagram

Fig. 1. Block Diagram

The above diagram describes the complete working of Atharva Search engine.

- Front-End: We develop a Responsive Web interface through which user will interact with our system. The user interface will consist of a search bar through which user can enter their Search Query.
- Query Operation: The System's first operation starts with taking search query and performing Query Expansion^[3] with the help of Binary Search Algorithm[2].
- Search Algorithm: It is a tree-like data structure whose nodes store the letters of an alphabet. By structuring the nodes in a particular way, words and strings can be retrieved from the structure by traversing down a branch path of the tree^[1].
- Document Indexing: Document indexing is the process of tagging or associating 'search' terms to documents. In other words, indexing makes the document 'searchable'.
- Indexing and Crawling: On the other hand, the results stored in the database are indexed and crawled based on their relevance on search query. The indexed data is then displayed as the search result for User Query^[3].

V. Conclusion

In this paper, ASE offers users vast and impressive amounts of information, available with speed and convenience. Following the 5 basic rules of web design- Easy to read, Easy to navigate, Easy to find, Consistent in layout and design and Quick to download. The project is well optimized as per SEO standards. And hence ASE solves the problem of using various applications to access different content of a college/university by providing the data required by the user, all in one place.

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